

Amendments To The Drawings:

The attached drawing sheets include changes to FIG. 1-3. These sheets contain corrections shown in red for the examiner's approval and are requested to replace the original sheets of FIGS. 1-3.

Attachment: Replacement Sheet of FIGS. 1-3

Annotated Sheet Showing Changes of FIGS. 1-3

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-18 are pending before this amendment. By the present amendment new claims 19-20 are added. No new matter has been added.

Claims 1-15 and 17-18 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 7,089,032 (Hongo) in view of U.S. Patent No. 7,085,587 (Oono). The "et al." suffix is omitted in a reference name.

The applicants respectfully disagree and submit that Hongo and Oono, in whole or in combination, do not teach, suggest or disclose all of the limitations now required in independent claims 1, 3, 8 and 13.

Regarding claim 1, the applicants submit that Hongo and Oono, in whole or in combination, do not teach, suggest or disclose, *inter alia*, the limitation that -- a resonant frequency of at least one of the receive amplifier, the receive mixer, the transmit mixer and the transmit amplifier is controlled by the frequency control signal--.

Regarding claim 3, the applicants submit that Hongo and Oono, in whole or in combination, do not teach, suggest or disclose, *inter alia*, the limitation that -- a resonant frequency of at least one of the receive amplifier and the receive mixer is controlled by the frequency control signal--.

Regarding claim 8, the applicants submit that Hongo and Oono, in whole or in combination, do not teach, suggest or disclose, *inter alia*, the limitation that -- a resonant frequency of at least one of the transmit mixer and the transmit amplifier is controlled by the frequency control signal--.

Regarding claim 13, the applicants submit that Hongo and Oono, in whole or in

combination, do not teach, suggest or disclose, *inter alia*, the limitation that -- an input resonant unit connected to the input unit, and for changing a resonant frequency in accordance with a frequency control signal--.

In contrast to the presently claimed invention, the applicant acknowledges that Hongo discloses a radio transmitting/receiving device that has "a frequency synthesizer part 140 and 141 which generates a number of frequencies by their switching to effectively share frequency channels assigned to the system" (Hongo col. 7, lines 6-9). However as depicted in FIG. 2, Hongo is unlike the presently claimed application.

One difference between Hongo and the presently claimed invention is that the PLL 140,142 of Hongo is configured to send a signal only to the VCO 141,143. That is, no other components of Hongo receives that signal generated from the PLL 140, 142 other than the VCO 141, 143.

Another difference between Hongo and the presently claimed invention is that the MIXERS 123, 124 or 112 of Hongo are controlled only by that signal from the amplifier 122 and from the signal from the VCO 141, 143. This is different from the presently claimed application because the presently claimed application can require that the resonant frequency of either the receive mixer or the transmit mixer as well as of the oscillator must all be controlled by the same frequency control signal.

Yet another difference between Hongo and the presently claimed invention is that the high frequency amplifier 122 receiving the radio frequency signal from the antenna 151 is not configured to be controlled by the frequency control signal. This is different from the presently claimed application because the presently claimed application can require that the resonant frequency of the receive amplifier as well as of

the oscillator must both be controlled by the same frequency control signal.

Still yet another difference between Hongo and the presently claimed invention is that the intermediate frequency amplifier (PGA) 125 is not configured to be controlled by the frequency control signal. This is different from the presently claimed application because the presently claimed application can require that the resonant frequency of the transmit amplifier as well as of the oscillator must both be controlled by the same frequency control signal.

Oono is also different than the presently claimed invention. The office action uses Oono only to disclose a direct conversion system for directly down-converting a received signal to a baseband signal (I/Q). In contrast to the presently claimed invention, Oono discloses a signal processing semiconductor integrated circuit device and wireless communication system that directly down-converts a received signal to a baseband signal (I/Q) of a voice frequency to achieve demodulation. In particular, the Oono reception-system circuit 110 comprises a low noise amplifier (LNA or 112) which amplifies a received signal; a mixer (MIX 113) which combines the amplified received signal with a local oscillation signal whose frequency is divided into the same frequency as the received signal which directly down-converts it into a voice frequency baseband signal and demodulates it; a high gain programmable gain amplifier unit (PGA 115) having low-pass filters (LPF) that amplifies the signal to predetermined levels; an auto calibration circuit 117 which effects DC offset calibration of the PGA 115; a controller 118 which effects operational control on the receptor-system circuit based on a command; and a transmission-system circuit 130 (col. 6, lines 7-23). Accordingly, Oono is silent, *inter alia*, with regards to a resonant frequency of at least one of the receive

amplifier, the receive mixer, the transmit mixer and the transmit amplifier is controlled by the frequency control signal in which the oscillator for outputting a resonant frequency signal whose frequency is also controlled by the same frequency control signal.

Therefore, the applicants submit that Hongo and Oono, in whole or in combination do not teach, suggest or disclose, *inter alia*, any of the above noted limitations or similar limitations as required in independent claims 1, 3, 8 and 13.

As per MPEP §2143.03, the cited references must teach, suggest, or disclose all of the claimed limitations to render a claimed invention obvious. Since Hongo and Oono, do not teach, suggest or disclose any of the above noted limitation or similar limitations now required in independent claims 1, 3, 8 and 13, then Hongo and Oono, in whole or in combination cannot support a rejection to independent claims 1, 3, 8 and 13.

With regards to claims 2, 4-7, 9-12, 14-15, and 17-18 ultimately depend upon their respective base claims 1, 3, 8 and 13 and as such incorporate by reference all the limitations contained therein, including the above cited limitation or similar limitations which have already been found to be absent from Hondo and Oono. Accordingly, claims 2, 4-7, 9-12, 14-15, and 17-18 are also believed to be in allowable form as being dependent upon their respective allowable base claims. Therefore, the examiner is respectfully requested to withdraw this obviousness rejection to dependent claims 2, 4-7, 9-12, 14-15, and 17-18.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being obvious over Hongo in view of Oono, and further in view of in view of U.S. Patent No. 7,299,018 (Van Rumpt). The "et al." suffix is omitted in a reference name.

The applicants respectfully traverse this obviousness rejection, and submit that

the claim 16 is in allowable form.

The above comments Hongo and Oono are equally applicable here, in that the above cited limitation or similar limitations have already been found shown to be absent from Hondo and Oono.

Van Rump is also different from the presently claimed invention in which the office action uses Van Rump to only disclose a LC tank including a capacitor controlled by a digital frequency control signal, a capacitor controlled by the analog frequency control signal and a fixed capacitor. In contrast to the presently claimed invention, Van Rump discloses a RF input filter having a digitally controlled capacitor bank with n capacitors being controlled by a tuning control signal for varying the tuning frequency of the RF input filter within a tuning range (Van Rump Abstract, FIG. 1A, 3 and 7). Van Rump is also silent, *inter alia*, with regards to a resonant frequency of at least one of the receive amplifier, the receive mixer, the transmit mixer and the transmit amplifier is controlled by the frequency control signal in which the oscillator for outputting a resonant frequency signal whose frequency is also controlled by a frequency control signal. Therefore the applicants contend that Van Rump does not cure the above-noted deficiency in replicating the presently claimed invention when combined with Hondo and Oono. Therefore, the applicants submit that Hondo, Oono and Van Rump, in whole or in combination, do not teach, suggest or disclose, *inter alia*, the above cited limitation or similar limitations as required in independent claim 13.

Claim 16 depends upon the base claim 13 and as such incorporate by reference all the limitations contained therein, including the above cited limitation or similar limitations which have already been found to be absent from Hondo, Oono and Van

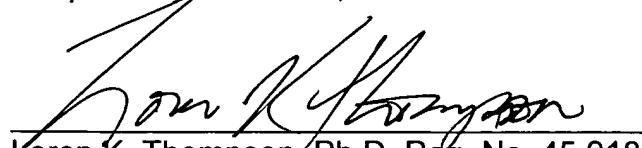
Rumpt. Accordingly, claim 16 is also believed to be in allowable form as being dependent upon their respective allowable base claims. Therefore, the examiner is respectfully requested to withdraw this obviousness rejection to dependent claim 16.

For the reasons set forth above, the applicants respectfully submit that claims 1-18, now pending in this application, are in condition for allowance over the cited references. Accordingly, the applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

Regarding new claims 19 and 20, claims 19 and 20 depends upon the base claim 1 and as such incorporate by reference all the limitations contained therein, including the above cited limitation or similar limitations which have already been found to be absent from Hondo and Oono. Therefore, the applicants submit that claims 19 and 20 are also believed to be in allowable form as being dependent upon their respective allowable base claim.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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PATENT
Docket: CU-4700

APPENDIX OF ATTACHMENTS

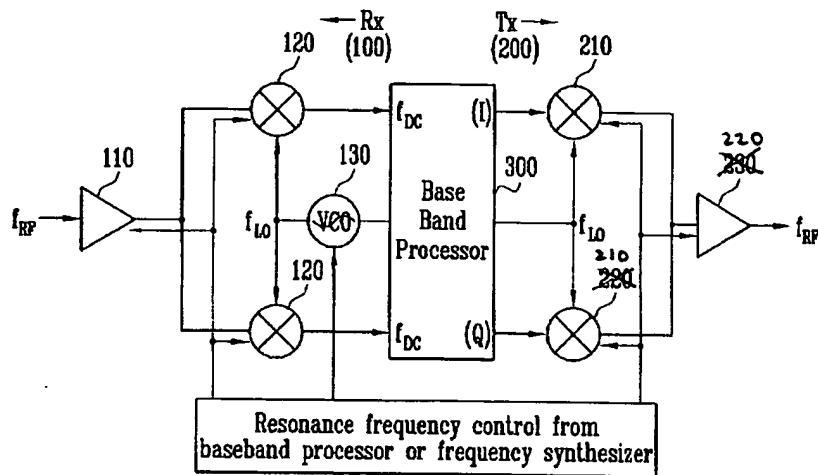
Application Serial No. 10/572,725
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**Replacement Sheets of FIGS. 1-3
(a total of 1 sheet of drawings)**

and

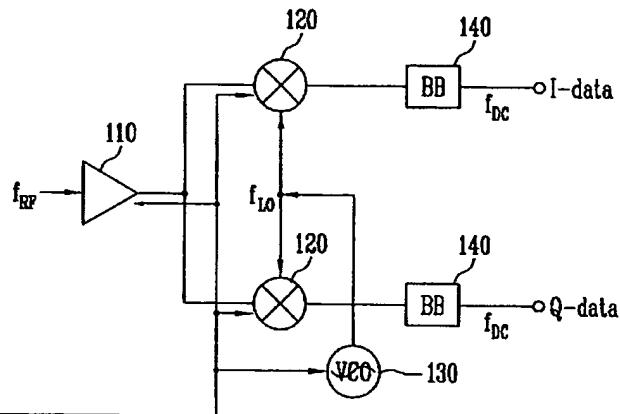
**Annotated Sheets Showing Changes of FIGS. 1-3
(a total of 1 sheet of drawings)**

[Fig. 1]



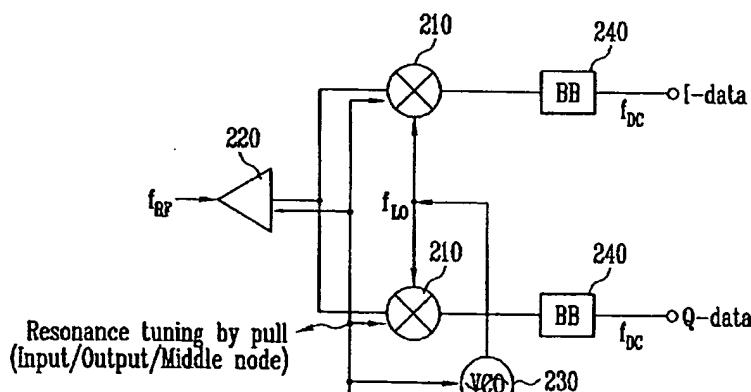
Resonance frequency control from
baseband processor or frequency synthesizer

[Fig. 2]



Resonance frequency control from
baseband processor or frequency synthesizer

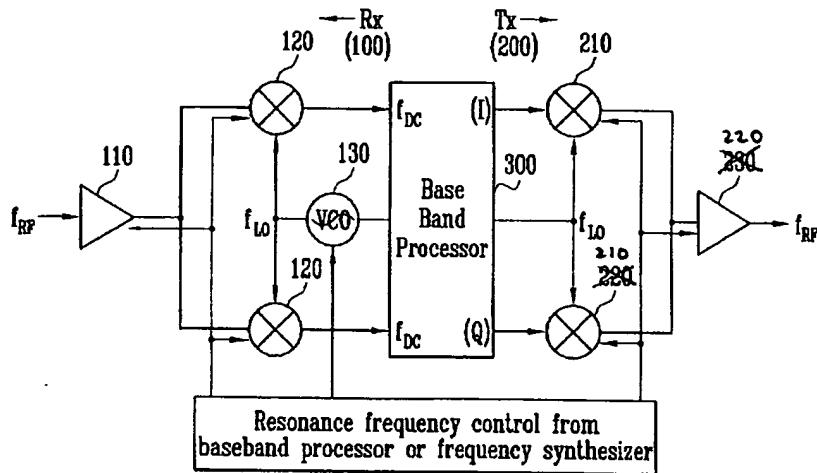
[Fig. 3]



Resonance tuning by pull
(Input/Output/Middle node)

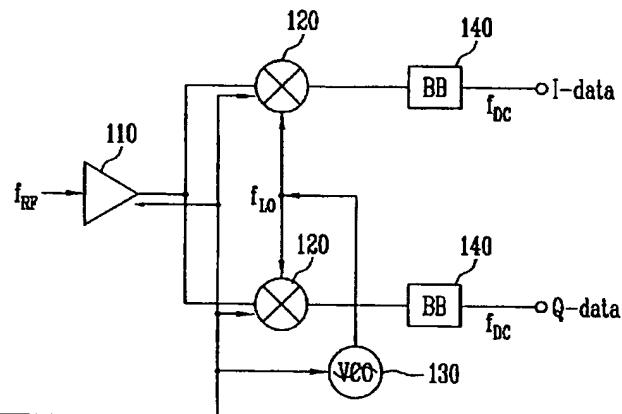
Resonance frequency control from
baseband processor or frequency synthesizer

[Fig. 1]



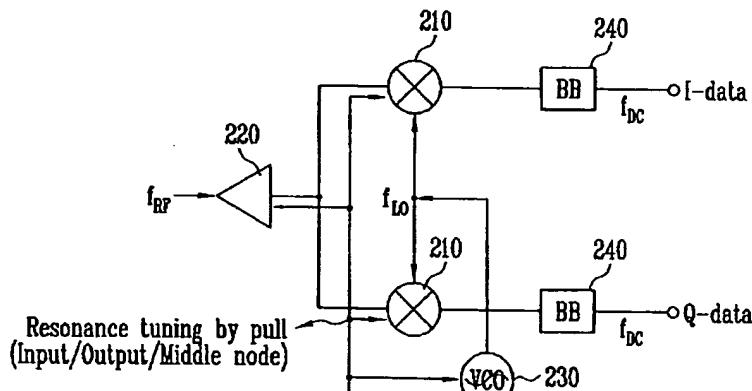
Resonance frequency control from
baseband processor or frequency synthesizer

[Fig. 2]



Resonance frequency control from
baseband processor or frequency synthesizer

[Fig. 3]



Resonance frequency control from
baseband processor or frequency synthesizer